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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/743,641	12/22/2003	Chen-Chung S. Chang	EMS1 34180US2	7411
116 7590 06/27/2007 PEARNE & GORDON LLP 1801 EAST 9TH STREET SUITE 1200 CLEVELAND, OH 44114-3108			EXAMINER LAVILLA, MICHAEL E	
			ART UNIT 1775	PAPER NUMBER
			MAIL DATE 06/27/2007	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

**Office Action Summary**

Application No.

10/743,641

Applicant(s)

CHANG ET AL.

Examiner

Michael La Villa

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 13 April 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-55 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-31, 34-46, 49, 50 and 53-55 is/are rejected.
- 7) ☒ Claim(s) 32, 33, 47, 48, 51 and 52 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 December 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:
2. The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
3. Claims 2-9, 11-18, 20, 21, 31, 34-36, 38, 42-44, and 50 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
4. Regarding Claims 2-9, 11-18, 20, 21, 31, 34-36, 38, and 50, it is unclear what is meant by the phrase "commercially pure" for the reasons of record in the Office Action mailed on 13 December 2006. Applicant provides a rationale for what this phrase means. It is unknown what determines the standard of commercial purity. Any sold material is commercially pure, once designated as such. Therefore, it is unclear how one of ordinary skill in the art can ascertain what is meant by this designation since it potentially could include any material. Moreover, applicant's argument suggests that were commercially purer materials to become available subsequently, assuming such materials can be definitively identified, the claim would encompass those materials and not what is made currently. It is unclear on what legal authority applicant relies to justify claiming in this manner.
5. Regarding Claim 42, it is unclear what is meant by the phrases "is made from one of a group consisting of copper and nickel" and "is made from the other of a group consisting of copper and nickel." It is unclear whether "one" and "other"

refer to "group" or group members. Would the claim scope be the same were the text changed to read "is made from only one element selected from the ~~of a~~ group consisting of copper and nickel" and "is made from the other element selected from the ~~of a~~ group consisting of copper and nickel"?

***Claim Rejections - 35 USC § 102***

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:
7. A person shall be entitled to a patent unless –
8. (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
9. Claims 1, 4, 5, 11-13, 16, and 34 are rejected under 35 U.S.C. 102(b) as being anticipated by Hirano et al. USP 5,028,495 for the reasons of record in the Office Action mailed on 13 December 2006.
10. Claims 1, 4, 5, 11-13, 16, and 34 are rejected under 35 U.S.C. 102(b) as being anticipated by Jha et al. USP 5,553,770 for the reasons of record in the Office Action mailed on 13 December 2006.
11. Claims 1-3, 7, 8, 10-13, 16, 19, 20, 22, 25, 26, 29, and 34 are rejected under 35 U.S.C. 102(b) as being anticipated by Mennucci USP 5,761,799 for the reasons of record in the Office Action mailed on 13 December 2006.
12. Claims 1, 4, 5, 10, 11-16, and 34 are rejected under 35 U.S.C. 102(b) as being anticipated by Galasso et al. USPN 4,034,454 for the reasons of record in the Office Action mailed on 13 December 2006.

13. Claims 1-30, 34-46, 49, 50, and 53-55 are rejected under 35 U.S.C. 102(b) as being anticipated by Hirano et al. JP 4-006173 for the reasons of record in the Office Action mailed on 13 December 2006.

***Claim Rejections - 35 USC § 102/103***

14. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

15. A person shall be entitled to a patent unless –

16. (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

17. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

18. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148

USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

19. Claims 1, 4, 5, 11-13, 16, and 34 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Hirano et al. USP 5,028,495. Hirano et al. teaches roll bonding nickel or nickel

alloy sheets to each side of a titanium core sheet in order to form a brazing strip.

See col. 2, line 52 through col. 4, line 20 in Hirano. Hirano teaches annealing subsequent to cold rolling bonding. To the extent that applicant's product-by-process limitation is not taught, the claimed articles would be expected to be identical to or substantially identical to those of the reference since the claimed product-by-process limitations are not deemed to preclude all heat treatment.

Applicant has not demonstrated that the entirety of the claimed product-by-process limitation necessarily results in products avoiding intermetallic formation or embrittlement which may be concerns with respect to prior art methods.

20. Claims 1, 4, 5, 11-13, 16, and 34 are rejected under 35 U.S.C. 102(b) as

anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Jha et al. USP 5,553,770. Jha et al. teaches roll bonding nickel or nickel alloy sheets to each side of a titanium core sheet in order to form a brazing strip. See Figure 3; and Example 1 in Jha et al. Jha et al. teaches annealing subsequent to cold rolling bonding. To the extent that applicant's product-by-process limitation is not taught, the claimed articles would be expected to be identical to or substantially identical to those of the reference since the claimed product-by-process limitations are not deemed to preclude all heat treatment. Applicant has not demonstrated that the entirety of the claimed product-by-process limitation necessarily results in products avoiding intermetallic formation or embrittlement which may be concerns with respect to prior art methods.

21. Claims 1, 4, 5, 11-13, 16, and 34 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Galasso et al. USPN 4,034,454. Galasso et al. teaches a titanium/zirconium core laminated with nickel layers on each side, wherein the composite is a preform for brazing. See Galasso et al. (col. 4, lines 26-49). To the extent that applicant's product-by-process limitation is not taught, the claimed articles would be expected to be identical to or substantially identical to those of the reference since the claimed product-by-process limitations are not deemed to preclude all heat treatment. Applicant has not demonstrated that the entirety of the claimed product-by-process limitation necessarily results in products avoiding intermetallic formation or embrittlement which may be concerns with respect to prior art methods.

22. Claims 1-30, 34-46, 49, 50, and 53-55 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over claims 1-30, 34-46, 49, 50, and 53-55 are rejected under 35 U.S.C. 102(b) as being anticipated by Hirano et al. JP 4-006173. Hirano et al. teaches a composite brazing material formed of a zirconium core and coated on each side with Cu/Ti/NiCu laminate. See Hirano et al. (Figure 1 and corresponding discussion on pages 388 and 389). To the extent that applicant's product-by-process limitation is not taught, the claimed articles would be expected to be identical to or substantially identical to those of the reference since the claimed product-by-process limitations are not deemed to preclude all heat treatment. Applicant has

not demonstrated that the entirety of the claimed product-by-process limitation necessarily results in products avoiding intermetallic formation or embrittlement which may be concerns with respect to prior art methods.

***Response to Amendment***

23. In view of applicant's amendments and arguments, applicant traverses the section 112, second paragraph rejection of the Office Action mailed on 13 December 2006. Applicant's traversal arguments are addressed in the rejections set forth above. Those rejections not repeated above are withdrawn.
24. In view of applicant's amendments and arguments, applicant traverses the section 102 rejection over Hirano '495, the section 102 rejection over Jha, and the section 102 rejection over Galasso of the Office Action mailed on 13 December 2006. Applicant argues that these references do not teach the claimed product-by-process limitation, which argument is addressed in the section 102/103 rejection set forth above. It is remarked that applicant's claimed "roll bonding" could encompass hot roll bonding, which would appear to give rise to the problems that applicant expects to avoid by precluding intermediate heat treatment. That the claims encompass hot roll bonding is suggested by previously pending Claim 16 that required "cold rolling." Applicant also argues that to the extent that the references do teach the claimed product-by-process limitation, the product is not a finished braze strip or foil. That the prior art methods require further steps to form what the prior art method considers a finished braze strip or foil does not preclude identifying the formed laminate at



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such an intermediate stage as a braze strip or foil. Applicant has not established that the strip or foil could not function as a braze strip or foil.

25. In view of applicant's amendments and arguments, applicant traverses the section 102 rejection over Mennucci '749 of the Office Action mailed on 13 December 2006. Applicant argues that Mennucci does not teach a brazing strip, but rather anodes. While this characterization appears to be correct, it would be expected that the laminates of Mennucci could serve as braze strip or foil. The presence of platinum would not appear to defeat this possibility. Rejection is maintained.

26. In view of applicant's amendments and arguments, applicant traverses the section 102 rejection over Hirano '173. Applicant argues that the annealing step in Hirano '173 is precluded by the claimed intermediate heat treatment exclusion. Prior to annealing the claimed laminate is formed. Furthermore, while there may be subsequent annealing in Hirano, the claimed product-by-process limitation may include hot rolling, which may result in products identical to or substantially identical to those claimed. Applicant argues that the claimed invention requires one core, whereas Hirano teaches two cores. It is unclear how the claimed layer structure precludes Hirano's so-called two cores, even if two cores are not required.

***Allowable Subject Matter***

27. Claims 32, 33, 47, 48, 51, and 52 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

28. Claim 31 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

***Conclusion***


29. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael La Villa whose telephone number is (571) 272-1539. The examiner can normally be reached on Monday through Friday.

30. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jennifer McNeil can be reached on (571) 272-1540. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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31. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Michael La Villa  
24 June 2007

  
MICHAEL E. LAVILLA PH.D.  
PRIMARY EXAMINER